

ELECTRONIC VERTICAL NAVIGATION (E-VNAV)

1.0 GENERAL.

When an ILS, MLS, TLS, WAAS, or LAAS cannot support a precision system because of insufficient ground infrastructure, obstruction penetrations, or course alignment/TCH values outside precision standards, the NAVAID may support an E-VNAV approach procedure. This procedure offers the advantages of positive glidepath guidance for stabilized final descent, and inclined obstruction clearance surfaces to minimize the effect of obstructions. An E-VNAV procedure supports minimums greater than Category I systems. Depending on the obstruction environment, lower than nonprecision minimum may be realized.

2.0 FINAL AND MISSED APPROACH AREAS AND OCS'S.

Apply construction criteria contained in Chapter 3, section 1 of FAA Order 8260.48, Area Navigation (RNAV) Approach Construction Criteria, except:

2.1 Precision Object Free Area (POFA)

The POFA should not be penetrated. Objects penetrating the POFA shall not penetrate the WQS.

2.2 "W" OCS Penetrations.

The "W" surface should not be penetrated. Adjust obstruction height, raise the GPA, or displace the RWT to eliminate penetrations of the "w" surface. If the penetration cannot be eliminated, adjust DA.

2.3 Change to 8260.48, paragraph 3.1.4.1 Determine the distance from GPI or Pseudo-GPI to the adjusted DA point using the following formula:

$$D_{\text{adjusted}} = \frac{H \times 102}{\text{GPA}} + 200 + \text{GPI}$$

Where D_{adjusted} = the adjusted distance in feet from GPI to the adjusted DA

H = the obstacle height in feet above ASBL

Note: If obstacle is in the "X" surface, subtract "X" surface rise from H
If obstacle is in the "Y" surface, subtract "X" and "Y" rise from H

2.3 Missed Approach Segment

If the missed approach segment is based on ground NAVAID's, apply Order 8260.36A paragraph 21. If the missed approach segment is based on GPS, apply Order 8260.48 paragraph 3.1.5.

3.0 MINIMUMS.

The lowest published E-VNAV minimums are listed in Order 8260.48 Table 2-2B except add 100' to all HAT's and ¼ mile to all visibility values. When obstacles penetrate either the runway or approach OFZ, visibility credit for lights is not authorized, and the lowest authorized HAT and visibility values are the higher of the above or the following:

For $\text{GPA} \leq 4.2^\circ$: $300 - \frac{3}{4}$

For $\text{GPA} > 4.2^\circ$: $400 - 1$